

A NEW SPHENOPHORUS FROM ARIZONA
AND DISTRIBUTIONAL NOTES
(COLEOPTERA: CURCULIONIDAE)

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The species described below becomes the tenth member of the *simplex* group of species (Vaurie, 1951, p. 61). It agrees with them in small size, lack of raised pattern; long, not apically widened beak; eyes extending below level of insertion of beak; mesepimeron with straight front margin and acuminate outer margin; peduncle of postmentum flat, narrowly sulcate, rounded in front; front coxae virtually contiguous, middle coxae narrowly separated; tarsi with third segment narrow, longer than wide, below glabrous except for sparse hairs at sides.

At first sight this small species, as well as *Sphenophorus imus* Gyllenhal and *subulatus* Chittenden, look like large species of *Sitophilus*, but the mesepimeron and scutellum differ, and *Sitophilus* have the front coxae as widely spaced as the middle ones, and the apices of the tibiae furnished with pincer-like spurs.

Sphenophorus caroli Vaurie, New Species

(Figs. 1-3)

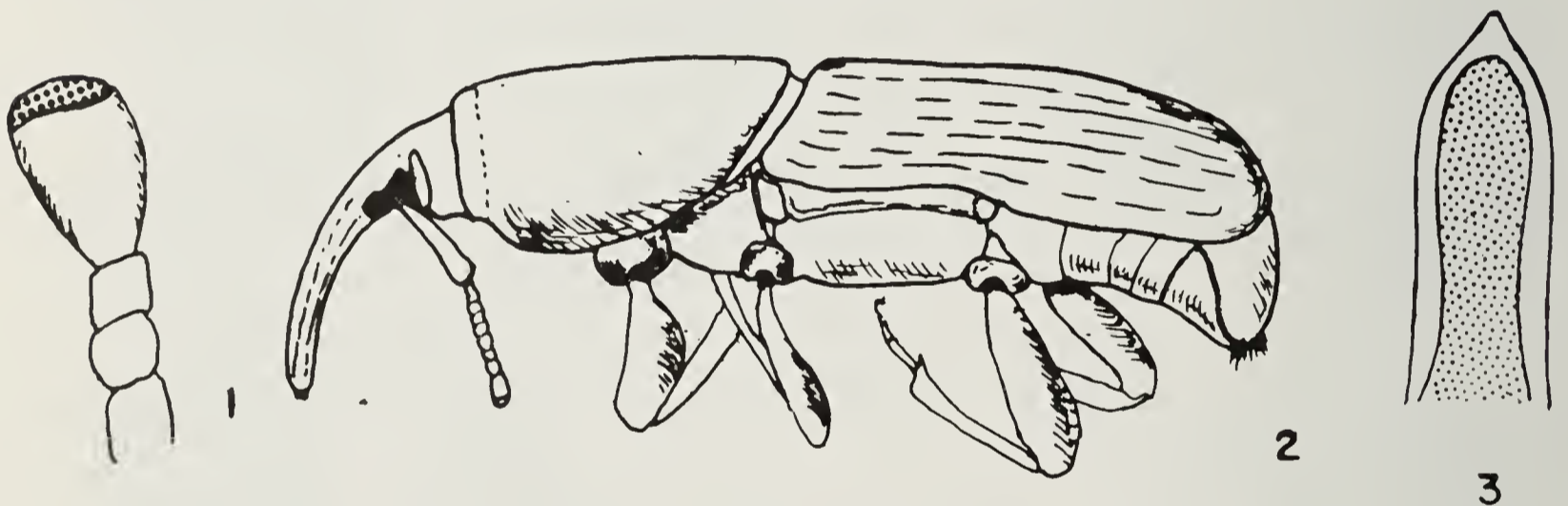
Holotype, male, Patagonia, Santa Cruz County, Arizona, July 6, 1958, Charles W. O'Brien, collector, taken "inactive under dry cow dung," and 17 male and 12 female paratopotypes. Holotype and some paratypes in the American Museum of Natural History, some paratypes to be deposited in the collection of Charles W. O'Brien, University of California, Berkeley, some in the United States National Museum, the British Museum (Natural History), and the Naturhistoriska Riksmuseum, Stockholm.

Diagnosis: Very similar to *imus* and *subulatus*, but differing from them and from others of *simplex* group by having smaller spongy apex on antennal club (scarcely visible in some individuals), narrower eyes (not wider than length of adjacent apical collar of pronotum), shorter scape, generally smaller size, and aedeagus of slightly different shape. Shining, polished, appearing black to unaided eye, but pale or dark red under lighted microscope.

Description of Holotype, Male: (characters of group given above, not repeated) Length, 6 mm. *Beak* shorter than pronotum, slightly arcuate, nearly cylindrical; in profile rather flattened and somewhat narrower toward apex, with vague keels on sides near upper and lower contours, extending from apex to about antennal scrobe; similar keel on top of beak; apex beneath not angulate; scrobe proportionately large and deep (fig. 2), opening close to eye. *Antennal club* scarcely dilated toward apex, more or less barrel shaped in profile (fig. 1), spongy apex so small as to be barely visible; scape short, bulbous toward apex, not longer than funicle. *Eye* narrower in width than antennal club. *Pronotum* longer than wide, finely, sparsely punctate, but a dozen much larger punctures at middle of base. *Scutellum* convex, elongate, no wider than sutural interval, sides nearly parallel. *Elytra* only about one-third longer than pronotum, strongly ribbed; intervals more or less flat, with single row of minute punctures; striae on disc deep, some as wide as one-third of width of interval, punctures within striae

indistinct, punctures of outer striae larger, not impressed; apices truncate. *Under surface*, prosternum and legs finely, sparsely punctate, remainder with larger, deeper punctures. Metasternum and first abdominal segment hollowed out at center, punctures with short hairs visible, last abdominal segment also with short hairs, but not depressed; femora bulbous, not hairy within; tibiae on inner side slightly sinuate, with sparse, inconspicuous hairs, front tibia on outer side slightly incurved, with outer apical angle slightly prolonged, inner apical spur incurved, larger than spurs of other tibiae; front and middle coxae on inner face with tuft of four or five hairs. *Pygidium* convex, apex truncate, with small tufts of hairs at sides, rather regularly punctate. *Aedeagus* slender, apex acuminate but not needle-like (fig. 3), aedeagus with lateral line present.

Variation from Holotype: Size ranges from 5.5 to 7 mm. Females differ from males by having no ventral cavity, venter being rather convex, and a relatively longer, stouter inner apical spur on the front tibia. Some of the paratypes of either sex have smaller punctures at the apex than at the middle of the pygidium, but there is no well defined line of demarcation as there is in some species of the *simplex* group. The bending inward of the tibiae is stronger in some individuals; the vague keel on top of the beak is not noticeable in some specimens; many males have the apex of the abdomen strongly bent under.



FIGS. 1-3—*Sphenophorus caroli* Vaurie, new species. 1—Antennal club. 2—Lateral view. 3—Apex of aedeagus.

Remarks: This species is named for the curculionid specialist, Charles W. O'Brien, of the University of California at Berkeley, who collected the type series.

Although this species is very similar to *imus* with the same kind of beak with large antennal opening, the same kind of elongate, finely punctate pronotum, narrow, parallel-sided scutellum, deeply ribbed elytra, and small size, it differs in the club, eyes, and scape as stated above in the Diagnosis, and also by having the apices of the elytra truncate, not separately rounded, the inner spur of the front tibia longer and stouter, the top of the beak vaguely carinate, not smooth, and the pygidium without a distinct raised area of finer punctures at the apex contrasting with the other, larger punctures. The male differs further from the male of *imus* by having only short, thin yellow hairs on the venter, not thick white hairs, no extensive oval patch of thick white hairs on the apex of the abdomen, and only a narrow tuft of hairs on the coxae, not a large mass of hairs covering half the coxae. The aedeagus of the two species is of the same sort, but the apex in *imus* is distinctly needle-like; that of *caroli* is more similar to that of *subulatus*, *gentilis*, and *quadrivittatus* in having a suggestion of a knob at the apex. Both

caroli and *imus* have been collected in Patagonia, *imus* also elsewhere in Arizona and in Mexico.

The few specimens (seven) of *subulatus* examined (New Mexico, Arizona, Texas-Mexico border) differ from *caroli* in some of the same characters as for *imus* (club, eyes, scape, pygidium, top of the beak), and further by having a distinct depression at the apex of the abdomen in both sexes, the pronotum less elongate, and the male with the venter glabrous, without hairs.

In my key to the species of *Sphenophorus* (Vaurie, 1951, p. 55), this species may be placed before couplet 30 which keys out *simplex*, *mormon*, *subulatus*, and *imus*, as follows:

Antennal club with spongy apical part on outer side no more than one-fifth of length of club; eye no wider than length of apical collar of pronotum—*caroli*
 Antennal club with spongy apical part on outer side one-third of length of club; eye wider than length of apical collar of pronotum.....

Distributional Notes

A few extensions of range for species of *Sphenophorus* are given below to supplement other changes made previously (Vaurie, 1954, 1956).

Sphenophorus aequalis ochreus LeConte: This subspecies is recorded from as far north as northern Utah and Nevada; it occurs also in southwestern Idaho as shown by a specimen from Parma, July, 1931, collected by Lanchester and in the collection of Charles W. O'Brien, University of California, Berkeley.

S. a. aequalis Gyllenhal: No specimens have been reported between the Dakotas and the state of Washington although they have been reported from north of the border; now we have ten specimens from 10 miles south of Choteau, Teton County, Montana, June, 1962, on Prairie Grass, *Puccinella nutalliana*, in the collection of Mr. O'Brien.

S. angustus Boheman: The range of this species is extended southward of Chihuahua, Durango, Hidalgo, and San Luis Potosi, Mexico, by two specimens, one from Lagoa do Moreno [Lagos de Moreno], Guanajuato, March, 1962 (Halffter and Pereira) in the Departamento de Zoologia, Sao Paulo, and one from 8 miles west northwest of Apizaco, Tlaxcala, June, 1961, taken on the University of Kansas Expedition.

S. arizonensis Horn: This Arizona-New Mexico species was known from only one specimen from Mexico (Distrito Federal), but there are now two more from Km. 60, Carretera Mexico to Jalapa via Texcoco, October, 1961 (Pereira and Halffter) in the Departamento de Zoologia, Sao Paulo.

S. cicatristriatus Fahraeus: An extension of the range slightly farther east than North Dakota is shown by two specimens in the collection of Mr. O'Brien from Clay County, western Minnesota, and another state of Mexico, Queretaro, can be added to Jalisco, Guanajuato, and others (specimen, June, 1952, taken by Gilbert and MacNeil and in the University of California at Berkeley).

S. hoegbergii Boheman: A male from Tampico, Tamaulipas, March, 1951 (Stephen) in the University of Kansas, Lawrence, is the second specimen to be recorded from Mexico (the other was from Veracruz) of this Arizona-Texas species.

S. incurrens Gyllenhal: The range from Mexico to Panama should now include to Honduras (a male from Progreso, March, 1923, collected by T. H. Hubbell in the University of Michigan).

S. pertinax peninsularis Chittenden: The east coast range of this subspecies was recorded as Florida north to Georgia. A specimen from farther north was collected by Ashlock at Wrightsville Beach, New Hanover County, North Carolina, in the collection of Mr. O'Brien. It was taken from *Spartina alterniflora*, a new host plant for the species, although the nominate subspecies occurs in another plant of the same genus (*cynosuroides*).

S. phoeniciensis Chittenden: In Mexico recorded from the states of Sonora and Jalisco, and now from Nayarit (San Blas, 1953, collected by Borys Malkin). In the U. S., Nevada (Las Vegas) may be added to Arizona and California.

S. pontederiae Chittenden: This species, which breeds in the fresh water pickerel weed, has not been reported previously on the east coast north of Georgia, but I have seen a male in the collection of the University of Missouri from Providence, Rhode Island.

S. venatus vestitus Chittenden: This widespread subspecies of the eastern and southeastern U. S. and Greater Antilles has now been seen from Chicxculub, Yucatan, Mexico, July, 1952 (J. and D. Pallister) in the American Museum of Natural History. The subspecies *reticulaticollis* Boheman occurs in central Mexico.

LITERATURE CITED

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